

## OPA Excel Tips: Cross tabulations (PivotTables)

The Excel PivotTable function is a useful way to summarize data in Excel. All that is required is a dataset with column headers (there needs to be a column header for each column you intend to use in the pivot table data array).

Pivot Tables can be used to create summary statistics e.g. counts of applications by IC, cross tabulations, nested tables and filtered tables e.g. awarded applications per fiscal year.

### Example 1a: Award dollars by IC.

In this example the Transplantation dataset is used.

	A	B	C	D	E	F	G	H	I	J	K
1	Appl Id	Type	Actv	Project	PI Name(s)	FY	IC	Title	Abstract	SA Text	Awd Tot \$
2	7987780	2	R01	HL075353-06	MESSINA, LOUIS MICHAEL	2010	HL	Mesenchy	DESCR	1. I. Spe	\$411,250
3	8435690	1	R21	HL113777-01A1	LIBONATI, JOSEPH ROCCO (contact); MARGULI	2013	HL	Exercise a	DESCR	A. Spec	\$200,000
4	8245505	1	R01	AR061460-01A1	FISHER, JOHN P.	2011	AR	Applicatio	DESCR	II. SPECI	\$355,245
5	8159876	1	R01	EY021768-01	KAO, WINSTON W	2011	EY	Cell Ther	DESCR	P.I. Kao	\$530,406
6	8400215	1	R01	DK095001-01A1	MIETHKE, ALEXANDER	2012	DK	The role o	DESCR	SPECIFIC	\$333,825
7	8415397	1	U18	TR000536-01	LYNCH, JOHN P.	2012	TR	Modeling	DESCR	SPECIFIC	\$375,600
8	7672945	1	R43	DK083832-01	POO, RAMON E.	2009	DK	A perfluor	DESCR	1. SPECIF	\$100,000
9	8108873	1	R01	HL103709-01A1	TZANAKAKIS, EMMANOUIL	2011	HL	Bioproces	DESCR	1. SPECIF	\$379,711
10	8504313	1	R01	DK098787-01	BUCHWALD, DEDRA S	2012	DK	Culturally	DESCR	2. SPECIF	\$211,602
11	8508395	1	R21	AA021225-01A1	CALLACI, JOHN J	2013	AA	Alcohol E	DESCR	2. SPECIF	\$217,063
12	7581820	2	R01	AI053193-06A1	RIDDELL, STANLEY R.	2009	AI	CD8+ T C	DESCR	2. SPECIF	\$502,469
13	7731198	1	R01	CA136551-01A1	RIDDELL, STANLEY R. (contact); JENSEN, MICHA	2009	CA	Targeted	DESCR	2. SPECIF	\$551,563
14	8371082	2	R01	DK079713-06	ARRIOLA, KIMBERLY RUTH JACOB	2012	DK	Project A	DESCR	2. Specif	\$240,878
15	7735633	2	R01	AI052079-05A2	KEARNS-JONKER, MARY K	2009	AI	Non-Hum	DESCR	2. Specif	\$400,000

Assume we want to look at award total \$s by IC from this dataset.

Step 1: Select the 'INSERT' menu and click 'PivotTable'.

	A	B	C	D	E	F	G	H	I	J	K
1	Appl Id	Type	Actv	Project	PI Name(s)	FY	IC	Title	Abstract	SA Text	Awd Tot \$
2	7987780	2	R01	HL075353-06	MESSINA, LOUIS MICHAEL	2010	HL	Mesenchy	DESCR	1. I. Spe	\$411,250
3	8435690	1	R21	HL113777-01A1	LIBONATI, JOSEPH ROCCO (contact); MARGULI	2013	HL	Exercise a	DESCR	A. Spec	\$200,000
4	8245505	1	R01	AR061460-01A1	FISHER, JOHN P.	2011	AR	Applicatio	DESCR	II. SPECI	\$355,245
5	8159876	1	R01	EY021768-01	KAO, WINSTON W	2011	EY	Cell Ther	DESCR	P.I. Kao	\$530,406
6	8400215	1	R01	DK095001-01A1	MIETHKE, ALEXANDER	2012	DK	The role o	DESCR	SPECIFIC	\$333,825
7	8415397	1	U18	TR000536-01	LYNCH, JOHN P.	2012	TR	Modeling	DESCR	SPECIFIC	\$375,600
8	7672945	1	R43	DK083832-01	POO, RAMON E.	2009	DK	A perfluor	DESCR	1. SPECIF	\$100,000
9	8108873	1	R01	HL103709-01A1	TZANAKAKIS, EMMANOUIL	2011	HL	Bioproces	DESCR	1. SPECIF	\$379,711
10	8504313	1	R01	DK098787-01	BUCHWALD, DEDRA S	2012	DK	Culturally	DESCR	2. SPECIF	\$211,602
11	8508395	1	R21	AA021225-01A1	CALLACI, JOHN J	2013	AA	Alcohol E	DESCR	2. SPECIF	\$217,063
12	7581820	2	R01	AI053193-06A1	RIDDELL, STANLEY R.	2009	AI	CD8+ T C	DESCR	2. SPECIF	\$502,469
13	7731198	1	R01	CA136551-01A1	RIDDELL, STANLEY R. (contact); JENSEN, MICHA	2009	CA	Targeted	DESCR	2. SPECIF	\$551,563
14	8371082	2	R01	DK079713-06	ARRIOLA, KIMBERLY RUTH JACOB	2012	DK	Project A	DESCR	2. Specif	\$240,878
15	7735633	2	R01	AI052079-05A2	KEARNS-JONKER, MARY K	2009	AI	Non-Hum	DESCR	2. Specif	\$400,000

The input box shown below will appear. This enables you to tell Excel where the data array is that you want to use in the pivot table. Below that you can specify whether you want the Pivot Table to appear in a 'New Worksheet' (the default) or on an 'Existing Worksheet'.

Step 2: Enter the Table Range (either by typing or highlighting the cells) and Click 'Ok'.

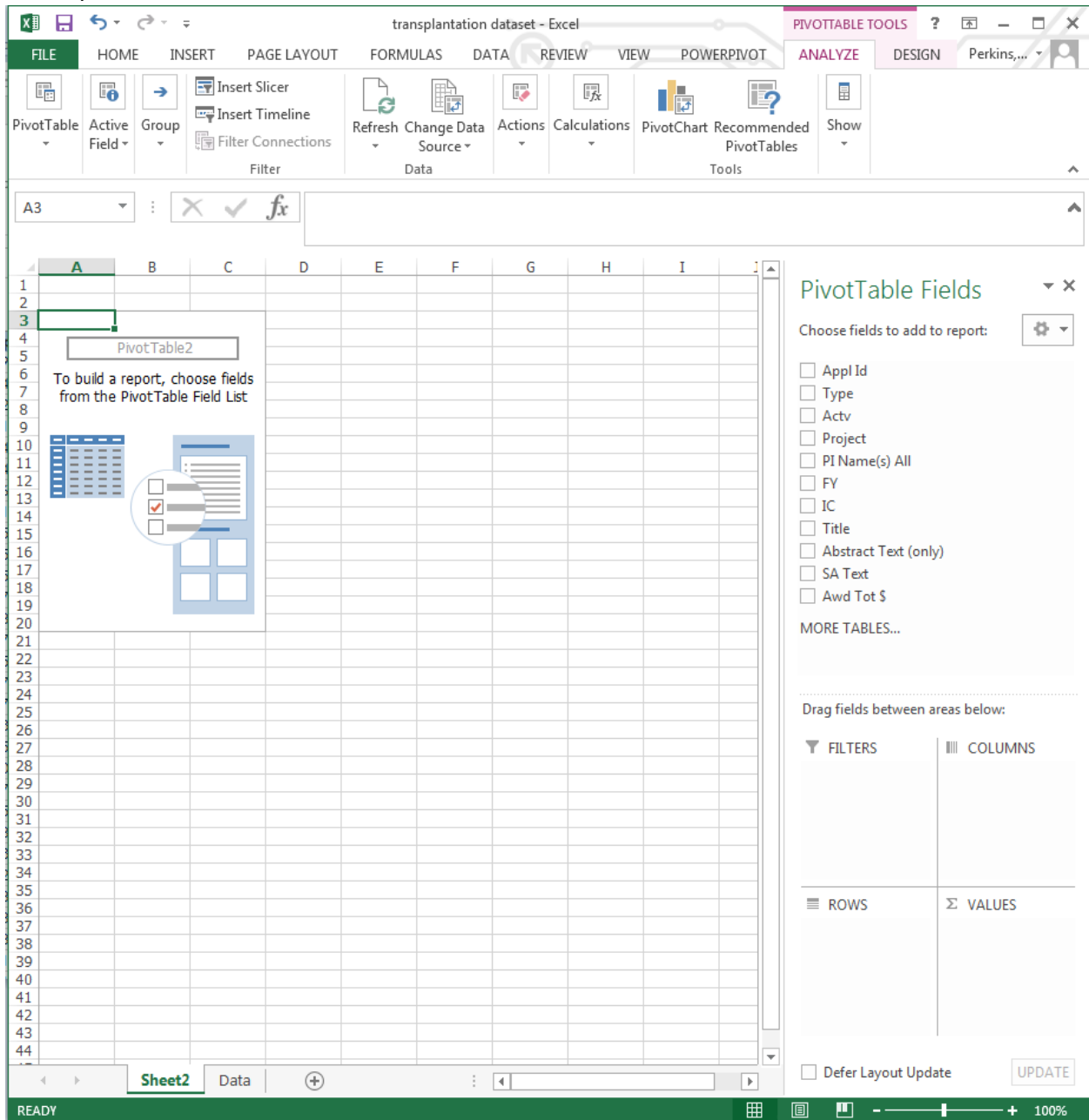
The screenshot shows an Excel spreadsheet with a data table. The 'Create PivotTable' dialog box is open, showing the following options:

- Choose the data that you want to analyze:**
  - Select a table or range
    - Table/Range: `Data!$A$1:$K$1803`
  - Use an external data source
    - Choose Connection...
    - Connection name:
- Choose where you want the PivotTable report to be placed:**
  - New Worksheet
  - Existing Worksheet
    - Location:
- Choose whether you want to analyze multiple tables:**
  - Add this data to the Data Model

The data table in the background has the following columns: Appl Id, Type, Actv, Project, PI Name(:FY, IC, Title, Abstract, SA Text, Awd Tot \$.

Appl Id	Type	Actv	Project	PI Name(:FY	IC	Title	Abstract	SA Text	Awd Tot \$
7987780	2	R01	HL075353-MESSINA,	2010	HL	Mesenchy	DESCR	1 I. Spe	\$411,250
8435690	1	R21	HL113777-LIBONATI,	2013	HL	Exercise a	DESCR	A. Spec	\$200,000
8245505	1	R01	AR061460-FISHER, JC	2011	AR	Applicatio	DESCR	II. SPECI	\$355,245
8159876	1	R01	EY021768-KAO, WIN	2011	EY				
8400215	1	R01	DK095001-MIETHKE, J	2012	DK				
8415397	1	U18	TR000536-LYNCH, JC	2012	TR				
7672945	1	R43	DK083832-POO, RAN	2009	DK				
8108873	1	R01	HL103709-TZANAKAK	2011	HL				
8504313	1	R01	DK098787-BUCHWAL	2012	DK				
8508395	1	R21	AA021225-CALLACI,	2013	AA				
7581820	2	R01	AI053193-RIDDELL, S	2009	AI				
7731198	1	R01	CA136551-RIDDELL, S	2009	CA				
8371082	2	R01	DK079713-ARRIOLA,	2012	DK				
7735633	2	R01	AI052079-KEARNS-JK	2009	AI				
8591825	1	R41	OD018403-MARSH, H	2013	OD				
7785204	1	R01	NS065109-BELLAMKC	2009	NS				
7741820	1	R01	DK083411-LIN, FANG	2009	DK				
7811914	3	R01	DE014190-XU, HUAKI	2009	DE				
7581433	1	R01	DK081118-SIMINOFF,	2009	DK				
8039687	1	R01	CA140243-PAN, PING	2011	CA				
7787991	1	R21	NR011192-TAYLOR, L	2009	NR				
7566297	1	R01	DK082430-KIKYO, NC	2009	DK	Histone pi	DESCR	A. Specif	\$377,500
8371909	2	R01	DE013349-MOONEY,	2012	DE	Engineerit	DESCR	A. Specif	\$428,932
7804168	2	R44	HL071359-VILKOMER	2010	HL	A Self-Mor	DESCR	A. Specif	\$693,102
8291578	1	R01	GM098294-KIKYO, NC	2012	GM	Histone isi	DESCR	A. Specif	\$288,800
8300575	1	K23	DK090209-FORDE, KI	2012	DK	Gender a	DESCR	A.1. Spei	\$182,110
8395366	1	R43	AI102449-ROTOLO,	2012	AI	Neutralizc	DESCR	Acute gi	\$284,820
8394126	1	R41	DK095639-HEROLD, I	2012	DK	Measuren	DESCR	All forms	\$284,931
8115617	2	R01	HL069929-VAN DEN	2011	HL	Strategies	DESCR	Allogene	\$584,742

The screen below will appear showing a place holder for the Pivot Table in the cells and a menu on the right to enable you to select the data you are interested in. The top half of the menu shows the variables in the dataset and the bottom section of the menu shows the various parts of the pivot table.



Step 3: To produce a Pivot Table showing award total \$\$ by IC, first drag and drop the 'IC' variable into the 'ROWS' box. When you do this, the list of ICs will appear as the first part of your PivotTable.

The screenshot shows the Microsoft Excel interface with the following details:

- File Name:** transplantation dataset - Excel
- Task Pane:** PIVOTABLE TOOLS (ANALYZE tab)
- Spreadsheet Data:**

Row Labels									
AA									
AG									
AI									
AR									
AT									
CA									
DC									
DE									
DK									
EB									
ES									
EY									
GM									
HD									
HG									
HL									
MD									
MH									
NR									
NS									
OD									
RR									
TR									
<b>Grand Total</b>									
- PivotTable Fields Task Pane:**
  - Choose fields to add to report:
    - Appl Id
    - Type
    - Actv
    - Project
    - PI Name(s) All
    - FY
    - IC
    - Title
    - Abstract Text (only)
    - SA Text
    - Awd Tot \$
  - MORE TABLES...
  - Drag fields between areas below:
    - FILTERS:** (Empty)
    - COLUMNS:** (Empty)
    - ROWS:** IC
    - VALUES:** (Empty)
  - Defer Layout Update
  - UPDATE

Step 4: Next drag and drop the 'Awd Tot \$' variable into the 'VALUES' box. The total \$ awarded by each IC will now appear in the Pivot Table.

The screenshot shows an Excel spreadsheet with a PivotTable. The PivotTable is located in cells A3:H27. The 'Row Labels' are 'IC' and the values are 'Sum of Awd Tot \$'. The data is as follows:

IC	Sum of Awd Tot \$
AA	3707912
AG	7671355
AI	135903470
AR	34508464
AT	521816
CA	70701913
DC	1648603
DE	18709800
DK	111279269
EB	11520149
ES	1077634
EY	18936113
GM	11623492
HD	7156713
HG	2209301
HL	172786954
MD	1390377
MH	1556721
NR	3032303
NS	32277979
OD	2495934
RR	1962160
TR	900599
<b>Grand Total</b>	<b>653579031</b>

The PivotTable Fields task pane on the right shows the following configuration:

- Choose fields to add to report:
  - Appl Id
  - Type
  - Actv
  - Project
  - PI Name(s) All
  - FY
  - IC
  - Title
  - Abstract Text (only)
  - SA Text
  - Awd Tot \$
- MORE TABLES...
- Drag fields between areas below:
  - FILTERS: (empty)
  - COLUMNS: (empty)
  - ROWS: IC
  - VALUES: Sum of Awd T...
- Defer Layout Update:  UPDATE

## Example 1b: Funding by IC by fiscal year.

Step 5: To produce a cross tabulation by fiscal year, simply drag the 'FY' variable into the 'COLUMNS' box and the following table will appear.

The screenshot shows an Excel spreadsheet with a PivotTable. The PivotTable is located in the range A3:H28. The PivotTable Fields task pane is open on the right side of the screen. The task pane shows the following configuration:

- Choose fields to add to report:**
  - Appl Id
  - Type
  - Actv
  - Project
  - PI Name(s) All
  - FY
  - IC
  - Title
  - Abstract Text (only)
  - SA Text
  - Awd Tot \$
- Drag fields between areas below:**
  - FILTERS:** (Empty)
  - COLUMNS:** FY
  - ROWS:** IC
  - VALUES:** Sum of Awd T...

The PivotTable data is as follows:

Row Labels	2009	2010	2011	2012	2013	Grand Total
AA	2278714	586256	360472	39480	442990	3707912
AG	2302857	980160	1388693	1310211	1689434	7671355
AI	35221682	34044339	20197329	30839331	15600789	135903470
AR	9706302	8930347	4263051	6468739	5140025	34508464
AT	521816					521816
CA	13129805	14064395	13336333	10389466	19781914	70701913
DC	850203		231000	515210	52190	1648603
DE	10072250	1171045	1404232	3425524	2636749	18709800
DK	29954648	22211926	30469062	18917622	9726011	111279269
EB	3081724	2098454	1770399	2318470	2251102	11520149
ES		98907		753733	224994	1077634
EY	5006175	2788366	6187084	2191283	2763205	18936113
GM	1061391	1375198	1896813	5400262	1889828	11623492
HD	1401893	2465859	977660	385429	1925872	7156713
HG					2209301	2209301
HL	42809108	43496781	37345545	28241789	20893731	172786954
MD	200000			863185	327192	1390377
MH	328359	413853	399752	386250	28507	1556721
NR	1600751	335130	822048	240047	34327	3032303
NS	9391650	3732011	4182136	8484469	6487713	32277979
OD			802500	520568	1172866	2495934
RR	934954	715064	312142			1962160
TR				375600	524999	900599
<b>Grand Total</b>	<b>169854282</b>	<b>139508091</b>	<b>126346251</b>	<b>122066668</b>	<b>95803739</b>	<b>653579031</b>

Step 6: To change the format of the numbers in the cells, click on the down arrow to the right of the variable name in the 'VALUES' box. The menu below will appear. Click on the 'Number Format' button and select the appropriate format for the data, here we selected 'Currency' and changed decimal places to '0'.

The screenshot shows an Excel PivotTable with the following data:

Row Labels	2009	2010	2011	2012	2013	Grand Total
AA		\$411,986	\$360,472	\$39,480	\$442,990	\$1,254,928
AG	\$2,018,795	\$434,190	\$910,070			
AI	\$20,852,652	\$24,316,007	\$11,197,324			
AR	\$7,030,519	\$6,976,502	\$4,227,758			
AT	\$521,816					
CA	\$6,623,003	\$5,219,758	\$8,794,753			
DC	\$455,729		\$231,000			
DE	\$7,704,415	\$398,130	\$443,227			
DK	\$18,252,208	\$17,870,288	\$25,799,745			
EB	\$3,081,724	\$2,098,454	\$1,770,399			
ES		\$98,907				
EY	\$3,038,571	\$1,754,617	\$4,053,569			
GM	\$727,465	\$1,375,198	\$1,896,813			
HD	\$1,401,893	\$1,865,685	\$755,603			
HL	\$36,329,953	\$34,388,586	\$22,720,080			
MD	\$200,000					
MH	\$203,943	\$413,853	\$399,752			
NR	\$1,303,238	\$335,130	\$822,048			
NS	\$6,267,199	\$2,279,667	\$3,816,823			
OD			\$802,500			
RR	\$436,400		\$312,142			
TR						
<b>Grand Total</b>	<b>\$116,449,523</b>	<b>\$100,236,958</b>	<b>\$89,314,078</b>	<b>\$65,533,903</b>	<b>\$65,430,200</b>	<b>\$434,984,722</b>

The 'Value Field Settings' dialog box is open, showing the following options:

- Source Name: Awd Tot \$
- Custom Name: Sum of Awd Tot \$
- Summarize Values By: Show Values As
- Summarize value field by: Sum (selected)
- Number Format: (selected)

## Example 1c: Calculating number of grants instead of award \$s.

When entering cell values in a pivot table, Excel will usually default to 'Sum' if a numerical variable is used. The default for text variables is 'Count'.

Step 7: To change the cell values to show a count (number of projects in this case), click on the down arrow to the right of 'Sum of Awd Tot ' and the menu below appears. Select 'Value Field Settings'

The screenshot displays an Excel spreadsheet with a PivotTable. The PivotTable is structured as follows:

Sum of Awd Tot \$	Column Labels	2009	2010	2011	2012	2013	Grand Total
Row Labels	2009	2010	2011	2012	2013	Grand Total	
AA	2278714	586256	360472	39480	442990	3707912	
AG	2302857	980160	1388693	1310211	1689434	7671355	
AI	35221682	34044339	20197329	30839331	15600789	135903470	
AR	9706302	8930347	4263051	6468739	5140025	34508464	
AT	521816					521816	
CA	13129805	14064395	13336333	10389466	19781914	70701913	
DC	850203		231000	515210	52190	1648603	
DE	10072250	1171045	1404232	3425524	2636749	18709800	
DK	29954648	22211926	30469062	18917622	9726011	111279269	
EB	3081724	2098454	1770399	2318470	2251102	11520149	
ES	98907			753733	224994	1077634	
EY	5006175	2788366	6187084	2191283	2763205	18936113	
GM	1061391	1375198	1896813	5400262	1889828	11623492	
HD	1401893	2465859	977660	385429	1925872	7156713	
HG					2209301	2209301	
HL	42809108	43496781	37345545	28241789	20893731	172786954	
MD	200000			863185	327192	1390377	
MH	328359	413853	399752	386250	28507	1556721	
NR	1600751	335130	822048	240047	34327	3032303	
NS	9391650	3732011	4182136	8484469	6487713	32277979	
OD			802500	520568	1172866	2495934	
RR	934954	715064	312142			1962160	
TR				375600	524999	900599	
<b>Grand Total</b>	<b>169854282</b>	<b>139508091</b>	<b>126346251</b>	<b>122066668</b>	<b>95803739</b>	<b>653579031</b>	

The PivotTable Fields task pane on the right shows the following settings:

- Choose fields to add to report:
  - Appl Id
  - Type
  - Actv
  - Project
  - PI Name(s) All
  - FY
  - IC
  - Title
  - Abstract Text (only)
  - SA Text
  - Awd Tot \$
- MORE TABLES...
  - Move Up
  - Move Down
  - Move to Beginning
  - Move to End
  - Move to Report Filter
  - Move to Row Labels
  - Move to Column Labels
  - Move to Values
  - Remove Field
  - Value Field Settings...
- FILTERS:
  - IC
- ROWS:
  - Sum of Awd Tot \$



You will see 'Sum' highlighted.

Step 8: Select 'Count' and click 'OK'. Other options may be useful e.g. 'Average' if you were looking for average award by grant type.

The screenshot shows an Excel spreadsheet with a PivotTable. The PivotTable is set to summarize the 'Sum of Awd Tot \$' field. The 'Value Field Settings' dialog box is open, showing the 'Sum' option selected in the 'Summarize value field by' list. The dialog box also shows the 'Source Name' as 'Awd Tot \$' and the 'Custom Name' as 'Sum of Awd Tot \$'. The 'Summarize Values By' is set to 'Show Values As'. The 'Number Format' button is visible at the bottom of the dialog box. The PivotTable Fields task pane on the right shows the 'VALUES' area with 'Sum of Awd T...' selected. The spreadsheet data includes columns for years 2009, 2010, 2011, 2012, 2013, and a Grand Total column. The Grand Total row shows values: 169854282, 139508091, 126346251, 122066668, 95803739, and 653579031.

Row Labels	2009	2010	2011	2012	2013	Grand Total
AA	2278714	586256	360472	39480	442990	3707912
AG	2302857	980160	1388693			
AI	35221682	34044339	20197329			
AR	9706302	8930347	4263051			
AT	521816					
CA	13129805	14064395	13336333			
DC	850203		231000			
DE	10072250	1171045	1404232			
DK	29954648	22211926	30469062			
EB	3081724	2098454	1770399			
ES		98907				
EY	5006175	2788366	6187084			
GM	1061391	1375198	1896813			
HD	1401893	2465859	977660			
HG						
HL	42809108	43496781	37345545			
MD	200000					
MH	328359	413853	399752			
NR	1600751	335130	822048			
NS	9391650	3732011	4182136			
OD			802500			
RR	934954	715064	312142			
TR				373600	524999	900599
<b>Grand Total</b>	<b>169854282</b>	<b>139508091</b>	<b>126346251</b>	<b>122066668</b>	<b>95803739</b>	<b>653579031</b>

The following table appears showing counts of the number of projects instead of dollars awarded. Any variable, either numeric or text, can be used to calculate 'Count'

The screenshot shows an Excel spreadsheet with a PivotTable. The PivotTable is located in the range A3:G28. The PivotTable Fields task pane is open on the right side of the screen. The task pane shows the following configuration:

- Choose fields to add to report:**
  - Appl Id
  - Type
  - Actv
  - Project
  - PI Name(s) All
  - FY
  - IC
  - Title
  - Abstract Text (only)
  - SA Text
  - Awd Tot \$
- Drag fields between areas below:**
  - FILTERS:** (Empty)
  - COLUMNS:** FY
  - ROWS:** IC
  - VALUES:** Count of Awd...
- Defer Layout Update:**  UPDATE

The PivotTable data is as follows:

Row Labels	2009	2010	2011	2012	2013	Grand Total
AA	2	3	1	1	2	9
AG	13	4	7	7	9	40
AI	83	83	65	76	38	345
AR	30	19	17	26	21	113
AT	1					1
CA	43	46	33	36	53	211
DC	3		1	2	1	7
DE	22	6	7	12	8	55
DK	97	58	68	49	35	307
EB	8	9	4	6	8	35
ES		2		2	1	5
EY	17	8	13	6	7	51
GM	4	5	6	11	5	31
HD	7	11	4	1	6	29
HG					1	1
HL	99	91	99	70	55	414
MD	1			4	1	6
MH	2	1	2	1	1	7
NR	5	2	2	1	1	11
NS	28	12	18	27	22	107
OD			1	3	4	8
RR	3	1	2			6
TR				1	2	3
<b>Grand Total</b>	<b>468</b>	<b>361</b>	<b>350</b>	<b>342</b>	<b>281</b>	<b>1802</b>

## Example 1d: Filtering by Award Type

It is also possible to filter the data that appears in the table. For example we can filter the count of projects to show just those that are Type 1 Applications.

Step 10: Drag and drop the 'Type' variable into the 'FILTERS' box. A new line will appear above the table with a drop down arrow. (All) means that all Application Types are selected.

The screenshot displays an Excel PivotTable with the following data:

Row Labels	2009	2010	2011	2012	2013	Grand Total
AA	2	3	1	1	2	9
AG	13	4	7	7	9	40
AI	83	83	65	76	38	345
AR	30	19	17	26	21	113
AT	1					1
CA	43	46	33	36	53	211
DC	3		1	2	1	7
DE	22	6	7	12	8	55
DK	97	58	68	49	35	307
EB	8	9	4	6	8	35
ES		2		2	1	5
EY	17	8	13	6	7	51
GM	4	5	6	11	5	31
HD	7	11	4	1	6	29
HG					1	1
HL	99	91	99	70	55	414
MD	1			4	1	6
MH	2	1	2	1	1	7
NR	5	2	2	1	1	11
NS	28	12	18	27	22	107
OD			1	3	4	8
RR	3	1	2			6
TR				1	2	3
<b>Grand Total</b>	<b>468</b>	<b>361</b>	<b>350</b>	<b>342</b>	<b>281</b>	<b>1802</b>

The PivotTable Fields task pane on the right shows the following configuration:

- Filters:** Type (dropdown menu)
- Columns:** FY (dropdown menu)
- Rows:** IC (dropdown menu)
- Values:** Count of Awd Tot \$ (dropdown menu)

Step 11; Click on the drop down arrow next to (All) and select '1', then click 'OK'. It is also possible to select multiple items by ticking the box at the bottom of the menu, just above 'OK'.

	2010	2011	2012	2013	Grand Total		
3	3	1	1	2	9		
4	4	7	7	9	40		
5	83	65	76	38	345		
6	19	17	26	21	113		
7					1		
8	46	33	36	53	211		
9		1	2	1	7		
10	6	7	12	8	55		
11	58	68	49	35	307		
12	9	4	6	8	35		
13	2		2	1	5		
14	8	13	6	7	51		
15	5	6	11	5	31		
16	11	4	1	6	29		
17					1		
18	91	99	70	55	414		
19			4	1	6		
20	1	2	1	1	7		
21	2	2	1	1	11		
22	12	18	27	22	107		
23			1	3	8		
24		3	1	2	6		
25				1	3		
26				2	3		
27	<b>Grand Total</b>	<b>468</b>	<b>361</b>	<b>350</b>	<b>342</b>	<b>281</b>	<b>1802</b>

The following table appears, showing a grand total of 1,341 applications instead of the 1,802 shown previously.

The screenshot shows an Excel spreadsheet with a PivotTable. The PivotTable is located in the range B3:G27. The PivotTable Fields task pane is open on the right side of the screen. The task pane shows the following configuration:

- Choose fields to add to report:**
  - Appl Id
  - Type
  - Actv
  - Project
  - PI Name(s) All
  - FY
  - IC
  - Title
  - Abstract Text (only)
  - SA Text
  - Awd Tot \$
- Drag fields between areas below:**
  - FILTERS:** Type
  - COLUMNS:** FY
  - ROWS:** IC
  - VALUES:** Count of Awd...

The PivotTable data is as follows:

Row Labels	2009	2010	2011	2012	2013	Grand Total
AA	2	1	1	2	6	
AG	12	2	5	7	8	34
AI	58	60	39	55	33	245
AR	25	12	16	22	21	96
AT	1					1
CA	23	18	26	15	27	109
DC	2		1	2	1	6
DE	17	4	4	10	7	42
DK	63	48	61	39	27	238
EB	8	9	4	6	8	35
ES		2		2	1	5
EY	13	6	9	4	5	37
GM	3	5	6	7	2	23
HD	7	9	3		5	24
HL	83	69	68	59	50	329
MD	1			1	1	3
MH	1	1	2		1	5
NR	4	2	2	1	1	10
NS	19	8	17	24	11	79
OD			1	3	3	7
RR	2		2			4
TR				1	2	3
<b>Grand Total</b>	<b>342</b>	<b>257</b>	<b>267</b>	<b>259</b>	<b>216</b>	<b>1341</b>

In this example the 'Type' variable could have been dropped into the 'COLUMNS' box instead of produce a nested table. It would then show Fiscal Year for each Application Type, or Application Type for each Fiscal year, depending on whether the 'TYPE' variable is dropped above or below the 'FY' variable.

## More help

Click on the '?' at the top right of the Excel screen and type 'PivotTable' into the help search.